TABLE M.5.3.8.4–1.—Annual Routine Radioactive Airborne Emissions under the Proposed Action (Fission Products)

Nuclide	Annual Amount Available for Release (Ci/1,200 MJ) ^b	Annual Air Effluents Via Charcoal Filter ^a (Ci/1,200 MJ) 1.1 × 10 ⁻¹³	
Krypton-83m	1.1×10^{-13}		
Krypton-85	3.5×10^{-4}	3.5×10^{-4}	
Krypton-85m	2.9×10^{-7}	$2.9\times10^{\text{-7}}$	
Krypton-87	0	0	
Krypton-88	2.3×10^{-11}	2.3×10^{-11}	
Krypton-89	0	0	
Iodine-131	1.9	9.3×10^{-1}	
Iodine-132	3.9	$1.9\times10^{\text{-1}}$	
Iodine-132m	0	0	
Iodine-133	1.1	5.6×10^{-2}	
Iodine-133m	0	0	
Iodine-134	0	0	
Iodine-134m	0	0	
Iodine-135	6.1×10^{-4}	2.8×10^{-5}	
Iodine-136	0	0	
Xenon-131	6.1×10^{-3}	6.1×10^{-3}	
Xenon-133	5.9	5.9	
Xenon-133m	2.1×10^{-1}	$2.1\times10^{\text{-1}}$	
Xenon-134m	0	0	
Xenon-135	4.5×10^{-2}	4.5×10^{-2}	
Xenon-135m	9.0×10^{-5}	9.0×10^{-5}	
Xenon-137	0	0	
Total	1.3×10^{1}	7.3	

Source: LLNL 2003d.

TABLE M.5.3.8.4–2.—Radiological Impacts to the General Public from Airborne Effluent Emissions during Normal Operations (Proposed Action)

	Proposed Action		No Action Alternative	
Receptor	Dose	Latent Cancer Fatality Risk	Dose	Latent Cancer Fatality Risk
NIF Offsite MEI	0.07 mrem/yr	4.2×10^{-8} /yr of exposure	0.04 mrem/yr	2.4×10^{-8} /yr of exposure
Population Dose	0.29 person-rem/yr	1.7×10^{-4}	0.26 person-rem/yr	1.6×10^{-4}

Source: LLNL 2003d.

MEI = maximally exposed individual; mrem = millirems; yr = year; NIF = National Ignition Facility.

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^a The effluents from the cryopumps during regeneration and from the target chamber when bringing to air would be passed through 2-inch-thick charcoal filters to remove iodines, with 99 percent being collected by charcoal bed. Here, only 95 percent is assumed removed for conservatism.

^b 1.2 gram uranium-235/target: 2×10^{16} Fissions per 20 MJ experiment, 60 experiments per year.

Ci = curies; MJ=megajoules.